



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,427	07/11/2003	Colin Stephen Gormley	6834	3233
55740	7590	08/31/2005	EXAMINER	
GAUTHIER & CONNORS, LLP 225 FRANKLIN STREET BOSTON, MA 02110			PERKINS, PAMELA E	
			ART UNIT	PAPER NUMBER
			2822	

DATE MAILED: 08/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/617,427

Applicant(s)

GORMLEY ET AL.

Examiner

Pamela E. Perkins

Art Unit

2822

PM

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-35 is/are allowed.
- 6) ☒ Claim(s) 36-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This office action is in response to the filing of the request for reconsideration on 3 June 2005. Claims 1-38 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gormley (6,818,564) in view of Peeters et al. (6,300,665).

Referring to claims 36-38, Gormley discloses a method for forming a micro-mechanical component in a semiconductor wafer where a membrane layer (3) supported on a handle layer (5) with a buried insulating layer (4) disposed between the membrane layer (3) and the handle layer (5), the micro-mechanical component (7) being formed in the membrane layer (3), and a communicating opening (10) extending through the handle layer (5) and the buried insulating layer (4) exposing the micro-mechanical component (7) (Fig. 3; col. 5, line 59 thru col. 6, line 1); forming at least one trench (8) extending through the membrane layer (3) for defining the micro-mechanical component (7) therein, each trench exposing a portion of the buried insulating layer (4) bridging the trench (8) (Fig. 2: col. 7, lines 16-24).

Gormley does not disclose applying a support layer to each bridging portion of the buried insulating layer, the support layer extending across each trench, and being applied to each bridging portion of the buried insulating layer prior to the bridging portion being exposed by the communicating opening through the handle layer for supporting the bridging portion.

Peeters et al. disclose a method for forming a micro-mechanical component in a semiconductor wafer where a membrane layer (1401) supported on a handle layer (1401) with a buried insulating layer (1475) disposed between the membrane layer (1401) and the handle layer (1401) (Fig. 14b; col. 10, lines 8-21), the micro-mechanical component (405) being formed in the membrane layer (1401), and a communicating opening (1450) extending through the handle layer (1401) and the buried insulating layer (1475) exposing the micro-mechanical component (405) (Fig. 14i); forming at least one opening extending for defining the micro-mechanical component (405) therein, each opening exposing a portion of the membrane layer (1401) bridging the openings, applying a support layer (1408) to each bridging portion (Fig. 14f; col. 10, lines 21-35), the support layer (1408) extending across each opening, and being applied to each bridging portion prior to the bridging portion being exposed by the communicating opening (1450) through the handle layer (1401) (col. 5, lines 4-17).

Since Gormley and Peeters et al. are both from the same field of endeavor, a method of forming a micro-mechanical component in a semiconductor wafer, the purpose disclosed by Peeters et al. would have been recognized in the pertinent art of Gormley. Therefore, it would have been obvious to one of ordinary skill in the art at the

Art Unit: 2822

time the invention was made to modify Gormley by a support layer extending across each trench prior to the bridging portion being exposed by the communicating opening through the handle layer as taught by Peeters et al. to tilt the micro-mechanical component on different axes (col. 5, lines 18-40).

Referring to claims 36-38, "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

A "*product by process*" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "*product by, all of*" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "*product by process*" claims or not. Note that Applicant has the burden of proof in such cases, as the above case law makes clear.

Allowable Subject Matter

Claims 1-35 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: prior art does not disclose teach or suggest applying a support layer to each bridging portion of a buried insulating layer the support layer extending across each trench, and being applied to each bridging portion of the buried insulating layer prior to the bridging portion being exposed by a communication opening through a handle layer for supporting the bridging portion from preventing rupturing of the buried insulating layer when the buried insulating layer is exposed by the communication opening through the handle layer.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela E. Perkins whose telephone number is (571)

Art Unit: 2822

272-1840. The examiner can normally be reached on Monday thru Friday, 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PEP


AMIR ZARABIAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800